LISTING OF THE CLAIMS

No amendments to the claims are made in the present response. The listing of the claims below is provided for convenience.

The Claims:

1. (PREVIOUSLY PRESENTED) A method of fabricating a chemical array using:

a head system with multiple groups of drop dispensers;

a transport system to move the head system with respect to a substrate;

a processor to dispense droplets from dispensers during operation of the transport system in a pattern along a selected path for each group;

the method comprising:

a) loading the dispensers with fluid such that each dispenser group has at least one set of redundant dispensers loaded with a same fluid;

b) dispensing drops from the dispensers to identify an error in one or more dispensers;

c) moving a first dispenser of each of the at least one set of redundant dispensers in each group along the selected path for that group while dispensing drops from non-error first dispensers of the sets in at least part of the pattern along the selected path for each group;

d) moving a second dispenser of each of the at least one set of redundant dispensers in each group along the selected path for that group while dispensing drops from a non-error second dispenser of a set having an identified error first dispenser in at least part of the pattern for the selected path of that group, wherein the non-error second dispenser dispenses drops only where the identified error first dispenser did not dispense drops in the pattern for the selected path; and

e) repeating (a) through (d) at least once;

wherein the array is fabricated.

2. (ORIGINAL) A method according to claim 1 wherein in step (d) drops are dispensed from each second dispenser of multiple groups in at least part of the pattern for the selected path of the same group.

3. (ORIGINAL) A method according to claim 2 wherein:

dispensers within a set of redundant dispensers communicate with a common reservoir for that set.

4. (ORIGINAL) A method according to claim 1 wherein the dispensers are pulse jets.

5. (ORIGINAL) A method according to claim 2 wherein in (d) the drops are dispensed from at least one second dispenser of a set of redundant dispensers, in the complete pattern for the first dispenser of the same set.

6. (PREVIOUSLY PRESENTED) A method of fabricating a chemical array using:

a head system with multiple groups of dispensers, the members of each group being arranged in multiple series extending in a first direction;

a transport system to move the head system with respect to a substrate with different series following respective paths, series from different groups which can simultaneously move along the selected paths for their groups forming a dispenser frame;

a processor to dispense drops from dispensers during operation of the transport system, in a pattern along a selected path for each group;

the method comprising:

a) loading the dispensers with fluid such that each dispenser group has multiple sets of redundant dispensers loaded with a same fluid;

b) dispensing drops from the dispensers to identify an error in one or more dispensers;

c) moving a first dispenser frame along the selected paths for the groups while dispensing drops from non-error dispensers of the first frame in at least part of the pattern along the selected paths for the groups;

d) when an error dispenser is detected in the first frame, moving a further frame along the selected paths for the groups while dispensing drops from a non-error dispenser of the further frame located in the same set as the error dispenser in at least part of the patterns along the selected paths for the groups, wherein the non-error dispenser of the further frame dispenses drops only where the identified error dispenser of the first frame did not dispense drops in the pattern for the selected paths; and

e) repeating (a) through (d) at least once;

wherein the array is fabricated.

7. (PREVIOUSLY PRESENTED) A method according to claim 6 wherein the multiple sets extend in a second direction sideways to the first direction.

8. (ORIGINAL) A method according to claim 7 wherein the selected paths extend in the first

direction.

9. (ORIGINAL) A method according to claim 7 wherein the dispensers of the head system move in unison.

10. (ORIGINAL) A method according to claim 7 wherein the first and further dispenser frames are moved in turn along the selected paths.

11. (ORIGINAL) A method according to claim 8 wherein the head is displaced sideways to the selected paths to bring each further frame into alignment with the selected paths.

12. (ORIGINAL) A method according to claim 8 wherein the first frame is selected based on the number of non-error dispensers in the first frame.

13. (ORIGINAL) A method according to claim 8 wherein in (d) when error dispensers are detected in a further frame, then multiple further frames are moved along the selected paths for the groups while dispensing drops from non-error dispensers of each of the further frames in at least part of the patterns along the selected paths for the groups.

14. (ORIGINAL) A method according to claim 13 wherein drops are dispensed from non-error dispensers in the same sets as the error dispensers.

15. (ORIGINAL) A method according to claim 8 wherein in (c) and (d) frames so moved are each selected as a frame among previously non-selected frames which has the highest number of non-error dispensers in sets not containing a non-error dispenser in a previously selected frame.

16. (ORIGINAL) A method according to claim 15 wherein when more than one frame has the highest number then selecting from among such highest number frames a frame which has a best non-error dispenser in a set not containing a non-error dispenser in a previously selected frame, wherein the best non-error dispenser more closely meets a predetermined criterion than a non-error dispenser of another highest number frame.

17. (ORIGINAL) A method according to claim 15 additionally comprising, when a set contains a

non-error dispenser in more than one selected frame, then determining a best dispenser from among those non-error dispensers which more closely meets a predetermined criterion and dispensing drops in at least part of the pattern along the selected path for that group in which that best dispenser is located when the frame containing that best dispenser is moved along the selected path for that group.

18. (ORIGINAL) A method according to claim 16 wherein the predetermined criterion is a drop size.

19. (ORIGINAL) A method according to claim 16 wherein the predetermined criterion is a drop placement.

20. (ORIGINAL) A method according to claim 7 wherein the dispensers are pulse jets.

21. (ORIGINAL) A method according to claim 12 wherein:

dispensers in each of multiple sets of each of multiple groups, communicate with a corresponding common reservoir for that column.

22. (ORIGINAL) A method according to claim 7 wherein the dispensing of (b) is performed after each loading in (a) and before the moving and dispensing of (c) and (d).

23. (ORIGINAL) A method according to claim 7 wherein the series are arranged in rows.

24. (ORIGINAL) A method according to claim 7 wherein the sets are arranged in columns.

25. (PREVIOUSLY PRESENTED) A method of fabricating a chemical array using:

a head system with multiple groups of dispensers, the members of each group being arranged in multiple series extending in a first direction and multiple sets extending in a second direction sideways to the first direction;

a transport system to move the head system with respect to a substrate with different series following respective paths, series from different groups which can simultaneously move along the selected paths for their groups forming a dispenser frame;

a processor to dispense drops from dispensers during operation of the transport system, in a

pattern along a selected path for each group;

the method comprising:

a) loading the dispensers with fluid such that dispensers within each set of the groups are loaded with a same fluid;

b) dispensing drops from the dispensers to identify an error in one or more dispensers;

c) moving a first frame along the selected paths for the groups while dispensing drops from non-error dispensers of the first frame in at least part of the pattern along the selected paths for the groups; and

d) when an error dispenser is detected in the first frame, then multiple selected frames are moved along the selected paths for the groups while dispensing drops from non-error dispensers of each of the frames in at least part of the pattern along the selected paths for the groups, wherein each of the frames so moved is selected as the frame among previously non-selected frames which has the highest number of non-error dispensers in sets not containing a non-error dispenser in a previously selected frame, wherein the non-error dispensers of the multiple selected frames dispense drops only where the identified error dispensers of the first frame did not dispense drops in the pattern for the selected paths;

wherein the array is fabricated.

26. (ORIGINAL) A method according to claim 25 wherein the selected paths extend in the first direction.

27. (ORIGINAL) A method according to claim 25 wherein the dispensers of the head system move in unison.

28. (ORIGINAL) A method according to claim 25 wherein the first and further dispenser frames are moved in turn along the selected paths.

29. (ORIGINAL) A method according to claim 26 wherein the head is displaced sideways to the selected paths to bring each further frame into alignment with the selected paths.

30. (ORIGINAL) A method according to claim 25 wherein the dispensers are pulse jets.

31. (ORIGINAL) A method according to claim 25 wherein:

dispensers in each of multiple sets of each of multiple groups, communicate with a corresponding common reservoir for that column.

32. (ORIGINAL) A method according to claim 25 wherein the series are arranged in rows.

33. (ORIGINAL) A method according to claim 26 wherein the sets are arranged in columns.

34-48. (CANCELED)

49. (PREVIOUSLY PRESENTED) A method according to claim 1, wherein the fabricated array is a biopolymeric array.

50. (PREVIOUSLY PRESENTED) A method according to claim 6, wherein the fabricated array is a biopolymeric array.

51. (PREVIOUSLY PRESENTED) A method according to claim 25, wherein the fabricated array is a biopolymeric array.

52. (PREVIOUSLY PRESENTED) A method of fabricating a chemical array using:

a head system with multiple groups of drop dispensers;

a transport system to move the head system with respect to a substrate;

a processor to dispense droplets from dispensers during operation of the transport system in a pattern along a selected path for each group;

the method comprising:

a) loading the dispensers with fluid such that each dispenser group has at least one set of redundant dispensers loaded with a same fluid;

b) dispensing drops from the dispensers to identify an error in one or more dispensers;

c) moving a first dispenser of each of the at least one set of redundant dispensers in each group along the selected path for that group while dispensing drops from non-error first dispensers of the sets in at least part of the pattern along the selected path for each group;

d) moving a second dispenser of each of the at least one set of redundant dispensers in each group along the selected path for that group while dispensing drops from a non-error second dispenser of a set having an identified error first dispenser in at least part of the pattern for the

selected path of that group, wherein the first and the second dispensers of the same set are not moved along the selected path simultaneously and the non-error second dispenser dispenses drops only where the identified error first dispenser did not dispense drops in the pattern for the selected path; and

e) repeating (a) through (d) at least once;

wherein the array is fabricated.

53. (PREVIOUSLY PRESENTED) A method according to claim 52, wherein the fabricated array is a biopolymeric array.